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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/314,637	05/19/1999	MAZIN G. RAHIM	2455-4602	5478

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EXAMINER

DORVIL, RICHEMOND

ART UNIT PAPER NUMBER

2654

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/314,637

Applicant(s)

RAHIM ET AL.

Examiner

Richmond Dorvil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 8.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, fails to teach a “numeric language comprising a set of digits relevant for interpreting and understanding a set of number string”. Page 2 of the original specification simply discloses a “numeric language consists of [the] set of words or phrases ...”

3. In view of the 112 1st rejection above, the rejection of claims 1-12 as being anticipated by or obvious over Alleva et al. in paper no. 6 is sustained.

Claim Rejections - 35 USC § 102

4. Claims 1, 5, 6, 7, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Alleva et al., Patent No. 5,970,449 (filed Apr. 03, 1997).

As per claims 1 and 10, Alleva et al. disclose a system/method comprising:

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a speech recognition processor that receives unconstrained input speech and outputs a string of words that can include a numeric language, (see Abstract, Fig. 1, item 32, col. 1, lines 56-62);

a numeric understanding processor that converts the string of words into a sequence of digits, (see Fig. 9, item 122 and 124).

As per claim 5, Alleva et al. disclose a system comprising an utterance verification processor that verifies the accuracy of the numeric language in the string of words, (see col. 8, lines 1-14).

As per claims 6-7, Alleva et al. disclose a system further comprising a validation database that stores a grammar, (see Fig. 1, item 40 and col. 7, lines 10-28); and a string validation processor that outputs validity information based on a comparison of the sequence of digits with the grammar, (see col. 7, lines 10-28 and col. 8, lines 1-14).

As per claim 9, Alleva et al. disclose a system wherein the numeric understanding processor converts the string of words into the sequence of digits based on a set of rules, (see Fig. 9, item 126).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2, 3, 4, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alleva et al., Patent No. 5,970,449 in view of Huang et al., Patent No. 5,937,384.

As per claim 2, Alleva et al. disclose all the limitations of claim 1 upon which claim 2 depends. Alleva et al fail to explicitly teach a system comprising an acoustic model database utilized by the speech recognition processor. However, this feature is well known in the art as evidenced by Huang et al. which disclose a speech recognition system comprising an acoustic model database, utilized by the speech recognition processor, (see Fig. 8, item 130). Further, Huang et al speech recognition system is incorporated by reference in Alleva et al. system (see Alleva et al. col. 3, lines 54-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Huang et al. acoustic model in Alleva et al. speech recognition system to accurately produce vector representative of the inputted speech.

As per claims 3-4, Alleva et al disclose a system wherein the acoustic model comprises:

A first set of models that characterize the numeric language, (see col. 6, lines 14-17, 40-42) and a second model that characterizes the remaining language, (see col. 5, lines 62-65).

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Alleva et al. Fail to explicitly teach that the models are hidden Markov models. However, this feature is well known in the art as evidenced by Huang et al which disclose a speech recognition system wherein the acoustic model is a hidden Markov model, (see col. 14, lines 12-34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Huang et al. acoustic model in Alleva et al. speech recognition system because Huang et al teach one of ordinary skill in the art the benefit of using HMM in acoustic processor to determine reference pattern that will more likely match the speech signal.

As per claim 8, Alleva et al. disclose all the limitations of claim 1 upon which claim 2 depends. Alleva et al. fail to explicitly teach a system comprising a language model database that emphasizes the numeric language utilized by the speech recognition processor. However, this feature is well known in the art as evidenced by Huang et al. which disclose a speech recognition system comprising an language model database, utilized by the speech recognition processor, (see Fig. 8, item 132). Further, Huang et al speech recognition system is incorporated by reference in Alleva et al. system (see Alleva et al. col. 3, lines 54-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Huang et al. language model in Alleva et al. speech recognition system to accurately produce vector representative of the inputted speech.

Response to Arguments

8. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

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Applicant's arguments are based on feature/limitations not supported by the original specification.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richemond Dorvil whose telephone number is (703) 305-9645. The examiner can normally be reached on Tuesday-Friday 9:30AM to 8:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 308-5576. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 3059508 for regular communications and (703) 308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


Richmond Dorvil
Primary Examiner
Art Unit 2654

RD
September 20, 2002